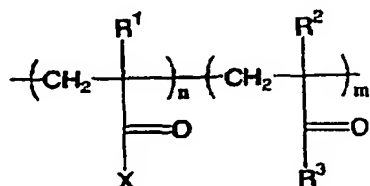


CLAIMS

1. A positive type photosensitive resin composition comprising a polyacrylate resin having,
 5 in the structure, at least a structural unit represented by the following general formula (1):

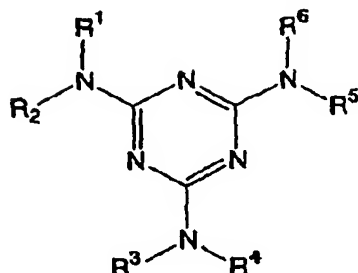
General formula (1)



- wherein X represents a hydroxyl group, an alkylol group having 2 to 4 carbon atoms, or a
 10 methylolamino group; R¹ and R² independently represents a hydrogen atom, or an alkyl group having 1 to 3 carbon atoms; R³ represents an alkyl group having 1 to 3 carbon atoms, an alkoxyl group having 1 to 3 carbon atoms, or an aralkyl group having an aryl
 15 group or alkyl group with 1 to 2 carbon atoms; n represents a positive integer; and m represents 0 or a positive integer, and a condensable crosslinker.

2. The photosensitive resin composition according to claim 1, wherein the condensable
 20 crosslinker is at least one selected from the group consisting of melamine compounds represented by the following general formula (2):

General formula (2)



wherein R^1 to R^6 independently represents a hydrogen atom, a methylol group, or an alkoxyethyl group to which an alkoxy group having 1 to 4 carbon atoms is bonded; provided that, at least two of R^1 to R^6 represent methylol groups, or alkoxyethyl groups to which an alkoxy group having 1 to 4 carbon atoms is bonded, and a condensation product thereof.

3. The photosensitive resin composition according to claim 1, wherein the intermolecular crosslinking reaction of said photosensitive resin composition through a crosslinker proceeds by heating; and the main chain decomposition type molecular decomposition reaction proceeds by the irradiation of ionizing radiation.

4. The photosensitive resin composition according to claim 1, wherein said photosensitive resin composition further comprises a photoacid generator, and the main chain decomposition type molecular decomposition reaction caused by the irradiation of ionizing radiation proceeds

simultaneously with the decomposition reaction of a crosslinked site by the acid generated by the irradiation of ionizing radiation.

5 5. The photosensitive resin composition according to claim 4, wherein the photoacid generator is at least one selected from the group consisting of aromatic sulfonium salts, aromatic iodonium salt and triazine compounds.

10 6. A process for manufacturing an ink jet head comprising a discharge port for discharging an ink, an ink flow path communicated with said discharge port, and an energy generating element for generating energy for discharging the ink, characterized in that the process comprises:

15 (1) a step of preparing a substrate provided with an energy generating element;

 (2) a step of forming a photosensitive resin layer that can be dissolved and removed so as to cover said energy generating element on the surface
20 of said substrate on which said energy generating element is provided;

 (3) a step of patterning said photosensitive resin layer to form an ink flow path pattern;

 (4) a step of forming a coating resin layer for
25 forming the wall of the ink flow path on said ink flow path pattern;

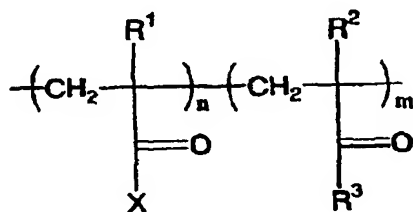
 (5) a step of forming an ink discharge port in

the coating resin layer located on the energy generating element; and

(6) a step of dissolving and removing the ink flow path pattern to form the ink flow path
5 communicated with said discharge port; and

the process employs a positive type photosensitive resin composition comprising at least a structural unit represented by the following general formula (1):

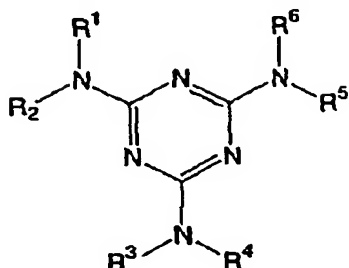
General formula (1)



10

wherein, X represents a hydroxyl group, an alkylol group having 2 to 4 carbon atoms, or a methylolamino group; R¹ and R² independently represents a hydrogen atom, or an alkyl group having
15 1 to 3 carbon atoms; R³ represents an alkyl group having 1 to 3 carbon atoms, an alkoxyl group having 1 to 3 carbon atoms, or an aralkyl group having an aryl group or alkyl group with 1 to 2 carbon atoms; n represents a positive integer; and m represents 0 or
20 a positive integer, and a condensable crosslinker represented by the following general formula (2):

General formula (2)



Wherein R¹ to R⁶ independently represents a hydrogen atom, a methylol group, or an alkoxymethyl group to which an alkoxy group having 1 to 4 carbon atoms is bonded; provided that, at least two of R¹ to R⁶ represent methylol groups, or alkoxymethyl groups to which an alkoxy group having 1 to 4 carbon atoms is bonded.

7. The process for manufacturing an ink jet head according to claim 6 characterized in that said positive type photosensitive resin composition further comprises a photoacid generator.

8. The process for manufacturing an ink jet head according to claim 7 characterized in that the photoacid generator is at least one selected from the group consisting of aromatic sulfonium salts, aromatic iodonium salts and triazine compounds.

9. The process for manufacturing an ink jet head according to claim 6, wherein a developer containing:

(1) a glycol ether having 6 or more carbon

atoms that can be mixed with water in an optional proportion;

(2) a nitrogen-containing basic organic solvent; and

5 (3) water;

is used as the developer for the positive type photosensitive resin composition.

10 10. The process for manufacturing an ink jet head according to claim 9, wherein the glycol ether is at least one selected from the group consisting of ethylene glycol monobutyl ether and diethylene glycol monobutyl ether.

15 11. The process for manufacturing an ink jet head according to claim 9, wherein the nitrogen-containing basic organic solvent is at least one selected from the group consisting of ethanolamine and morpholine.

20 12. The process for manufacturing an ink jet head according to claim 6, wherein the coating resin contains a curable epoxy compound.

13. The process for manufacturing an ink jet head according to claim 6, wherein the coating resin contains a cationic photopolymerization initiator.

25 14. The process for manufacturing an ink jet head according to claim 6, wherein the discharge pressure generating element is an electrothermal conversion member.

15. An ink jet head manufactured by the process
for manufacturing an ink jet head according to claim
6 .